



Neutralization / Supercritical Water Oxidation at Blue Grass

A Partnership for Safe Chemical Weapons Destruction

Together with Blue Grass Army Depot, the Assembled Chemical Weapons Assessment (ACWA) program has worked with the community in selecting neutralization/supercritical water oxidation (SCWO) as the technology to destroy the chemical weapons stored there. A systems contractor will perform the work, including design, construction, testing, operation and closure of the pilot-test facility.

Here is how neutralization followed by SCWO works:

- Munitions are disassembled by modified reverse assembly. Agent and energetics are separated. Agent and energetics are chemically decomposed and neutralized by caustic or water hydrolysis. The resulting chemical compounds are known as hydrolysates.
- The agent and energetic hydrolysates are destroyed using SCWO units. SCWO subjects the hydrolysate to very high temperatures and pressures, breaking them down into carbon dioxide, water and salts.
- Metal parts are thermally decontaminated by heating to 1000 degrees Fahrenheit for a minimum of 15 minutes.
- Solid effluents are recycled or tested prior to disposal in permitted landfills. Gas effluents are recycled or filtered before released to the atmosphere.

